

REMARKS:

Claims 16-29 are in the case and presented for consideration.

These newly drafted claims from the applicant are filed in reply to the Final Action and with an RCE in an effort to place the case in condition for allowance.

In an effort to address every issue raised in the Final Action, the applicant has request that all of the following remarks be present to the Examiner for consideration.

The initial subject matter intended by the applicant referred to **"marking or engraving means applied to the external surface of meat in general and resulting product"**, moment when attending the request in previous request pronounced in this patent process, it was divided having the elected patent turned to the respective **"marking or engraving mean and the equipment"**.

In the amendment file December 19, 2005, in an attempt to clarify the claims, with the fulfillment clarifying that the innovating purpose of the patent is **"to carry out a type of characteristic marking or engraving in high or low relief by means of a laser or heat producing fixtures on raw meat or any other physical status, semi-raw for example, but neither processed nor ready for consumption, the engraving of which will be carried out in meat pieces of any size, that is, from big pieces to even tiny grains, after grinding"**.

However, it should have been stated, as a main feature, that the product is engraved or marked, that is, the **meat body**, in its natural state or semi-natural state, and such process will not allow the **engraving or marking** to be lost after meat processing or industrialization for the purpose of final consumption.

Such a purpose aims at the identification of the product, in any location or place and at any time it is acquired/consumed life cycle.

As previously clarified the benefits occur especially to allow the final consumer or any other interested party, such as for example an analysis laboratory, the identification of the product origin in case of need for any reason coming up, especially for government control.

It was also widely clarified that the product attacked by the respective engraving or marking method becomes expendable in "raw or semi-raw meat bodies, that is, raw and semi-raw meat", the texture of which are apt to receive the process, which is extremely specific and which required a long creation time and high investment in research, evaluation and tests and especially in the professional graduation of people to follow-up the industrial process from beginning to end.

Also clarified were the differences for the types of "laser – light amplification by stimulated emission of radiation" existent in the market, and widely used in modern industry, in the most diverse types of products and segments, considering it has surpassed the application of other non-reliable techniques, and also, that the respective type of laser alters significantly the obtained process, in view of the different features generated by each one of them.

In order to reach a specific technique to mark "raw or semi-raw meat" required a long time for the research and tests involved, considering it required the determination of a specific laser power so that no external or internal "fat ablation" occurred in the meat body.

Therefore, the obtained technique necessarily patented, with total features of inventiveness, novelty, and industrial application, does not allow the engraving or

marking of any other type of food product if it is not "raw and semi-raw" meat, because it has, due to the product nature, extremely peculiar and characteristic textures, dimensions, sizes, thickness, fat tissues and densities.

The biggest challenge of this innovation was to obtain the engraving or marking of tiny pieces of meat, that is, meat grains.

Another challenge was to generate the respective engraving or marking in medium and big-sized meat bodies, breaking the big plates of fat, without disintegrating the respective piece of meat and still reaching an extensive depth of the respective meat body in order to guarantee the maintenance of the respective engraving or marking, preventing a simple cut or withdrawal of the marked location from jeopardizing the identification of the product.

Consequently, the achieved result was that the application of the respective engraving or marking process should occur in high and low relief, because the low relief regime would reach a deep internal extension of the meat body, which, even if not visible to the naked eye, will allow, in laboratory tests, the product identification, especially in relation to its origin.

It is notably assumed that the application and presence of the respective engraving or marking on the meat body occurs both in the natural state, that is, raw or semi-raw, and still in any temperature, including the frozen state, where the meat fibers become rigid, especially if they have big fat plates, which require the equipment used for that purpose, duly adapted to identify precisely the type, size, texture and especially the thickness of the engraving it will carry out, in relation to the low relief to be produced.

It should be pointed out that any type of human contact must be prevented with the meat body, with the respective equipment being automated to recognize, identify and apply

the type of laser necessary for that type of meat in its specific state and size.

After the application of the engraving or marking, it no longer disintegrates from the meat body, not even after its processing, that is, even if it is cooked, roasted, fried or receives any preparation process similar to those involved in human consumption, however small.

However, for the process to be maintained in its chain of beginning, middle and end, that is, until the consumption by a human being, after it is processed, it should be applied by means of the use of the especially developed equipment for that purpose, which allows with exclusive technological qualification the product identification, its size, texture, thickness, temperature, physical state, identifying also the type, size and quantity of the characters to be applied and should essentially be in its raw or semi-raw natural state.

Consequently, according to the previous original identification and description in the invention, there are four main features for this "marking or engraving mean of meat and corresponding equipment for that purpose", which are respectively:

- a) The application of the laser or regulated head which occurs in the raw or semi-raw meat of any kind, in any state;
- b) The equipment used allows the identification of the meat size and type, its texture in order to identify the form it will discharge the laser or heat beam, allowing for the engraving or marking in low relief, without the risk of withdrawing the said engraving/marking or its disintegration after preparation for consumption;
- c) There is no application of any object or equipment in physical contact with the meat at the moment of engraving or marking in order to allow and facilitate the location of the laser or heat beam, aiming at the preventing human contact and the risk of contamination by external factors; and

- d) The control of this mechanism occurs through a PLC, already duly described in the clarifications requested by the first process demand.

In view of such clarifications the rejections of the Examiner have been overcome in view of:

The following is a quotation of the second paragraph of 35 USC 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Former claim 14 and 15 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly pointing out and distinctly claim the subject matter which applicant regards as the invention. Claim 14, line 2, "included" should be – includes-. Claim 15 describes a device comprising both a laser (claim 12) and hyper-heated metal head (claim 15), however the disclosure only describes the alternative use of either a laser or a hyper-heated metal head.

As revealed in the application as filed, the marking or engraving process depends on especially created equipment, designed and developed for that purpose, because the product submitted to this process is a raw or semi-raw "meat body", in any size, thickness, dimension, texture and including in any natural state of temperature or even frozen or hyperfrozen.

The control of this equipment must be essentially rigid and precise, because it will be apt to mark or engrave in high or low relief, from a big piece of meat to ground meat grains.

The respective equipment, with a PLC attachment, also has a specific and original system that allows the simultaneous qualification of type, quantity and power of the laser or regulated heat that will be applied, in view of the type of meat body and its features, as well as in view of the identification to apply the high or low relief and the quantity of characters that will be necessary to apply.

As previously identified in original claim 2, the marking or engraving means, according to claim 1 was characterized by the fact that the equipment (a) is fitted with attachments (3) to produce heat or rays of adequate intensity, regulated, preferably by PLC – programmable logic controller, with or without sensor monitoring (R) which recognize the type of meat to be marked, its texture, apart from controlling engraving coloring, forms, characters and other information, configuring low- and high-relief engravings (4).

Thus, claims 14 and 15 clarified the content of initial revelations through claims 1 to 4 (which were maintained after the election) because said equipment was especially developed for the marking or engraving process, considering there was no similar equipment in the market for acquisition by the applicant of this patent, which could carry out the respective marking or engraving process with the quality and especially with the "precision" specific for products of the meat type and also, in any size, thickness, density, type, temperature, among other features already exhaustively specified.

New claim language has been provided and thus, the Examiner's rejection is respectfully traversed, because since the very beginning of the request of the respective patent, the matter now revealed extends with precision to its operational features and identification of the product to be marked or engraved, in low or high relief.

In order to identify any doubts about claims 12 and 15, we wish to clarify that as

revealed initially in claims 3 and 4 of this application, the "marking and engraving mean in a first form of realization can be carried out through application attachments (3) of regulated laser rays or heat, the wavelengths of which for the former (laser) are obtained from different components (gas, liquid crystal, chemical reaction, etc.), with said rays previously regulated by PLC.

Consequently, it is observed that the inventiveness reached more than one form of realization and that the first one of them occurs with the application of the engraving or marking process with laser-ray attachments (3), the wavelengths of which are obtained from different components", which are traditionally known in the world of science, such as gas, liquid crystal, chemical reaction, etc.

It is also recognized that, as initially revealed, the scope of the inventive activity involves a PLC in the respective equipment, that is, a "Programmable Logic Controller", which allows controlling the reception of the meat body and the identification and registration of its features, with the further purpose of qualifying the type of laser to be applied, the type of engraving or marking to be carried out (low or high relief, or eventually both simultaneously), in relation to the size of the piece of meat, its thickness and texture – especially if it is a silky meat, if it has many plates or layers of fat, which end up requiring an high-powered application of laser rays, if it has many filament or fat tissues in its interior so that such light beams reach the best-quality low relief, etc. etc. – and finally the characters to be applied, resulting from several factors, such as customer requirement and determination, application of local legislation, especially in relation to sanitary regulation control.

A second application form was additionally revealed for the respective marking or engraving process, resulting from the equipment especially developed for this purpose,

which deals with the use of attachments of "a metal head type hyper-heated through resistances or equivalents, with the production of a regulated heat to mark the meat surface(s) (2) as soon as it gets near or contacts it, configuring the engraving in low or high relief".

It is thus confirmed that of the revealed subject matter there are two possibilities acting simultaneously or not, identified or characterized according to the type of meat that will receive the marking or engraving process. Such an identification and characterization occurs automatically through the equipment according to the type of meat to be marked and its resulting characteristics.

As already previously declared the raw or semi-raw meat is placed by an instrument on a conveyor, and the respective equipment will identify it in the most perfect possible way, complying with the legislation of different countries, because the inventor and applicant of the respective patent is a traditional industrialist of the food segment and produces and markets his products in different countries, which have different regulating legislation in the health segment, particularly products for food sector, applying the respective process according to the quantity ordered by the customer (marking characteristics) or still complying with local legislation where the product will be marketed and consumed.

This process is so precisely applied that even after the preparation for final consumption, the respective marking or engraving does not disintegrate, even when applied on meat grains, in order to allow its identification through any laboratory examination.

Thus, the descriptive features in claims 12 to 15 also correspond exactly to the whole already revealed in new claims 16 to 19 and to the whole required in terms of

clarification defined in the R. process requirement previously presented and duly fulfilled by its applicant.

It is further clarified that the respective equipment regulates itself according to each type of laser to be applied, including in relation to its intensity in view of the type of meat being submitted to the process.

With such clarifications, we request the Examiner for his integral technical appreciation to maintain claims 16 to 19 and if he actually understands that the rejection of claims 12 to 15 are to be maintained, that he does it maintaining claims 16 to 19, for being the first that were revealed, fulfilling the legal presumptions of novelty, inventive activity and industrial application, indicating an unknown technical solution with practical results.

The **second part of the demand** cannot prosper either, because the features applied to the process and resulting from the equipment are totally original, with no inventive precedence or state of the art existent, and such foundation also occurs in view of the high financial investments carried out by the applicant in bibliographic research, scientific research including universities, technical tests, laboratory tests, both within his country and in other countries, highlighting USA, Germany, France and England, searching for technologies that could attend his research and technical needs, which demanded about 3 (three) years for the implementation of the respective process, and also for the difficulty of building the respective equipment that will allow to carry out the respective process with the precision he expected.

It should be pointed out that such conception and design were exclusive from the applicant and inventor, because as already explained he is a traditional industrialist in the food segment with entrepreneurial headquarters in Brazil, but exporting his marked

products to different countries, such as USA, United Kingdom, Spain, Italy, Germany, Sweden, Switzerland, France, Portugal, Turkey, Russia, Chile, Argentina, Mexico, Canada, among others.

The need for this invention occurred around 6 to 7 years ago, when he started his research, because he wished to identify his products, always of the "meat" type, in view of the different legal demands from the above mentioned countries, with big customer networks and especially due to the fact that recent diseases of animal origin are directly affecting products deriving from them.

With such a marking and engraving process of meat bodies, the applicant is able to maintain the identification of his products, in any state, however small the piece of meat, including meat grains (after grinding), so that in any government control action or even problems with any final consumer located anywhere in his marketing areas, he will be able to determine if the problematic product comes from applicant or not, through clinical / laboratory tests to be carried out in the most sophisticated American or European laboratories, thus guaranteeing the quality and the image of his final products in the national and international markets.

In relation to the second demand, and attending the whole presented by the R. Examiner, we have:

Claim Rejections – 35 USC § 112

The following is a quotation of 35 U.S.C. 103(a), which forms the basis for all obviousness rejections, set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title. If the differences between the subject matter sought to be patented and the prior art are such that the

subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability will not be negated by the manner in which the invention was made.

Claims 12-15 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over USPN 5,897,797 to Drouillard et al. Drouillard et al describe a laser marking device comprising holding means and sensing and computer control. With respect to claim 15, see claim 24 of Drouillard et al for a description of a heating element for cauterizing the produce skin. The intended use of the device for marking meat does not impart structural patentability to the apparatus claims.

Analyzing the entire text of this demand, it is clarified that it is divested of plausibility because the technical features of both patent processes are completely different, initially in view of the fact that the products reached with the respective engraving or marking processes are completely different from each other, that is, while the patent of the applicant 10/686,288 deals specifically and only with a "natural or semi-raw meat" product the patent indicated as prior art reaches only products of some types of "fruits, especially the citric ones and some types of vegetables which are sold in a loose state, in opposition to bagged or plastic-packaged products".

Initially, we wish to point out the objectives and summary of the invention, revealed in the patent of Drouillard et al, under no. 5,897,797, which are:

"One objective of the present invention is to provide a product marking system which

initially uses "ink-free" marking techniques.

One objective of the present invention is to provide a product marking system that uses the laser energy to cauterize the skin of the products with an identifying mark without the use of a scanning mask and without damaging the skin of the product to an extension that would produce damage or cause the appearance of a product unacceptable to the consumer.

Another objective of the present invention is to provide a product marking system that uses a printer head of the general type found in matrix point printers to cauterize the skin of the product with an identifying mark, without transferring ink to the skin of the product.

An additional objective of the present invention is to provide a product marking system that is flexible, reliable and efficient.

Summarizing, and for the above mentioned reasons, the present invention reveals a new product marking system and the method of using it to mark the skin of a product piece with an identifying mark. The first incorporation of the system revealed hereby uses a laser to discharge a high-intensity light beam to cauterize the skin of the product to form the identifying mark. The laser path and intensity are controlled with precision to form the mark. The second and third incorporations use the printer head of the type found in a matrix point printer. In the second incorporation, the printer head pins which are at a high temperature level due to friction or from a separate heating source contact directly the skin of the product to form the identification mark. In the third incorporation a thermally conductor tape is placed between the printer head and product. The pins of the printer head impact with the tape forming a warm point on the tape, which, in turn, cauterizes the

skin of the product to form the identification mark.

As it will be seen below, all the features of each one of the respective patents will be separated, with the consequent elimination of any risk of collision between them, both in the technical field of construction as well as in view of their purposes, remaining confirmed that also in their descriptive fields there is no confusion between them and they cannot be understood as similar because they provide distinct inventions, which generate completely different results one from the other, thus inexistent any principle of "obviousness in view of patent USPN 5,897,797".

Thus it will remain proven that one patent cannot take advantage of the other, that is, they cannot be substituted between them and therefore no technical conditions exist to recognize an inventive activity as "obvious" in view of the other's existence.

For an initial thesis of discussion and sustainability of the inexistence of similarity between the technical, structural and purpose features of the patents in question, that is, that of the Applicant in the current application and that of Drouillard No. 5,897,797, the legal parameters in force in the present Trips, included in article 27 should be pointed out, and which is:

Section 5: Patents

Article 27

Patentable matter

- 1. Without prejudice to the dispositions in paragraphs 2 and 3 below, any invention, product or process, in every technological sector, will be patentable, providing it is new, involves an inventive step, and is susceptible to industrial use. Without prejudice to the dispositions in paragraph 4 of Article 65, in paragraph 8 of Article*

*70 and in paragraph 3 of this Article, **patents will be available and patentable rights will be enjoyable without discrimination in relation to the location of the invention, its technological sector and in relation to the fact of the goods being imported or produced locally.*** (emphasis added)

As already fully explained, the solution sought by the applicant deals with an engraving or marking process applied to "meat" product of animal origin and the equipment, through the application of a laser beam or regulated heat, with its own technology developed exclusively for that purpose, allows the marking or engraving of the meat only in its raw or semi-raw state, which cannot be disintegrated or undone, even after the process of cooking, frying or any other preparation form, allowing human consumption and aiming at its identification, both of the entire piece and of smaller pieces of meat grain type, obtained after grinding.

It is thus consolidated that at no moment is the applicant requesting protection for the "laser", considering this has been a technology applied for many years now in the most diverse industrial fields, but he does seek the protection for the inventive activity of the marking or engraving process on a meat-type product and its equipment and also that in the initial claims revealed in this application number there is still the possibility of applying a regulated heat produced by a hyper-heated metal head through resistances or equivalents.

In a simple analysis it is possible to conclude that the process used to mark or engrave a meat is completely different from the **exclusive marking** of a citric fruit or some vegetables, as intended by the indicated patent of Drouillard, **considering that the products reached (meat and citric fruits/vegetables) have completely different**

natural consistencies, also in relation to their textures, densities, types of skins, prominences, body structures, etc.

According to the above mentioned article 27, we have that "Member States" of Trips should grant patents to all inventions, both related to the product itself and to the process as well, independently of the technological sector involved.

In general, the requirements are traditionally applied in the main Member States, such as: that it comprises "novelty", "inventive activity" and allows "industrial application".

Thus, while the concept of Patent, since the most remote times, aims at generating the exclusivity of use, exploitation and consequently ownership of the "art developed in the industrial field, providing all the above requirements are fulfilled", involving a certain "timely monopoly", **it must be pointed out that there is a "limit" for such protection, and an appreciation and conception impossibility of new technologies cannot exist in the same segment of developed prior art, otherwise we would be placing ourselves in a situation of total stagnation in terms of technological development, which would cause a serious shock among the great Nations and their respective development sectors of new technologies and such an issue is not only impossible, but socially unfeasible and unadvisable.**

In this order, we have the traditional doctrine involving the theme, such as:

"In Venice, in the XV Century. "Since the creation of the first national patent system, in the XV Century, the idea of Intellectual Property is connected with the mechanical arts: a new machine, a more efficient tool, an improved lever are the easiest examples of a patentable invention. A new chemical compound is a more magical creation: its utility is probably understandable, but not so its structure; even so, also there the patent was an

early acquisition. Industrial processes, on the other hand, are invisible elaborations; they are not things to touch and see, even though apparent through the disposition of apparatus on a plant, or by means of a written procedure instructing how to combine some chemicals. The patent system was never worried about visibility or comprehensibility: processes, like products were almost instantly recognized as a proper patent object. The patent only wants reproducibility, and only needs to know how the invention can be put into practice. Patents were never intended to be scientific tools: they were created to substitute the older trade secret as a means to protect an economic value, particularly important face to the competitors. The Jacobean Statute of Monopolies of 1623, understandably in a time where a lack of alternate technologies granted extraordinary economic advantages to whomever knew how to do anything a new way, both considered the patent a monopolistic instrument and absolved it from such a sin for the novel industries it encouraged. (SELA, 1897)¹

Summarizing, there must be the interpretation that different international legislation in the field of Industrial Property has treated the "concept of patent" to "a right that reaches directly its creator/inventor in view of the art technical features developed and revealed by him with the purpose of obtaining a technical solution, initially developed with purely subjective aspects in view of the human action regarding research, conception, manufacturing, tests, objectively obtaining in the end an invention comprising the legal presumptions of novelty, inventivity and industrial application".

Therefore, what the present Applicant proposes is exactly the objective protection for his creating and development activity, considering that they are ensured and endowed

¹ Barbosa, Denis Borges, Uma Introdução à Propriedade Intelectual, 2^a. Edição, Lúmen Júris, Brazil, São Paulo.

with the practices of total novelty, inventivity and industrial application.

In relation to the principle of “novelty”, which must be pointed out and highlighted in order to allow a better interpretation by the Examiner who pronounced the respective Action, we have that in a simple doctrinal conceptualization, his concept “revests the technology still not made accessible to the public or to the interested parties in the theme, with these not having obtained knowledge how to develop it, apply it and obtain its results”. It is, therefore, the essence of the sought protection. It means that the matter of patentability was never published, never accessible, never placed into public domain.

However, in the field of Industrial Property, the best international doctrine reveals that the novelty must be interpreted in the absolute aspect or in the relative aspect, with the latter applied exactly to allow the “maintenance of evolution and technological development of Nations”.

We have that the “relative novelty” considers a specific geographic region, a term, or still a determined mean, restricting the protection in favor of the applicant/inventor to the limits of what was developed and revealed, considering that present world technology creates at every moment an infinity of opportunities and forms to obtain new products or still to improve those already existent.

If the Patent concept, applied worldwide, is directed, among others, to the “conception of the solution for a technical problem in a determined industrial segment, for example” we have for the present case, particularly for patent application , that its inventor and applicant identified in his several surveying researches in different countries, that there was no technology and project/patent involving the meat marking or engraving and in a world moment where different countries are suffering from serious problems of animal diseases, as recently occurred with the bird flu and also cattle disease, several of these

countries have suffered international boycotts in the marketing of their products and for such the present invention allows a modern and safe meat marking process, especially for its identification, both of entire pieces, as well as for small portions as already exhaustively described.

It cannot be interpreted that the features of both inventions are similar in the whole or in part, considering that the patent identified as prior art involves completely different features from the patent of the Applicant, not reaching the "field of application" and much less the "purpose obtained in application ".

We also have that application has among its several features of novelty, the capacity to **engrave or mark in low or high relief** and in opposition to Drouillard's patent, the latter only allows surface marking, reaching only the **"skin of the citric fruit or some vegetables"**.

Therefore, one of the flagrant feature distinctions between both patents is that they reach "different purposes" and also "different products".

If the Examiner is related to the fact that the Applicant of the present application 10/686,288 has unduly taken advantage of the features of Drouillard's patent, such a possibility is totally unfounded, because apart from recognizing in "good faith" that Drouillard's patent and its respective applied technology was totally unknown to him he consigns that the said technology pointed out in the patent mentioned as prior art cannot be used by him, considering it does not contain any feature or technical principle that would allow him to engrave or mark in high and low relief, not allowing its application on meat products, especially if these are defrosted when their bodies become totally malleable and of difficult handling and

also if they have big layers of fat, where the process applied and protected by the patent of Brazilian origin, has to reach the meat layer itself in order to allow the marking and engraving, and needs to break and go through this layer of fat without disintegrating it and much less will the technical features of Drouillard's patent allow the marking or engraving in small meat portions, of the ground type.

Consequently, the field of the art described in Drouillard's patent can never be used to solve the problem of the applicant, considering his condition of a studious person with deep knowledge of handling meat products due to the fact of being a traditional Brazilian industrialist in the segment, as already informed, aware of the technology and "needs" of several countries in the segment, to which he exports his products.

It is sensible and of easy interpretation and acceptance the flagrant different novelties in the field of the art for the segment of marking or engraving meat products realized and developed by the Applicant and applied to his patent, and it is not reasonable to interpret the possibility of taking advantage of the technologies mentioned as prior art, particularly patent 5,897,797 as well as one applicant cannot take advantage of the other's technology to obtain his purposes.

This is true also in relation to Drouillard who cannot apply the mechanism of the current application 10/686,288, considering the former ended up limiting the types of vegetables and citric fruits in its invention, and it is not possible to apply their equipment to all types of vegetables and fruits considering that among these the nature and physical consistency are different, and much less will they be able to apply in a meat product, in a raw or semi-raw consistency, neither for the entire piece nor in parts or even ground!

In this order, it should be also considered that the "purpose" of the inventions in question cannot be disconsidered, with Drouillard's referring to the "marking of products

using the laser energy to cauterize the skin of product type citric fruit or some vegetables", while the matter revealed by application 10/686,288 reaches "marking or engraving means automated or manual, in low or high relief on meat products, at least one of the external meat surfaces of any kind and in any physical state and the respective equipment for that purpose".

Therefore, different levels of inventive activity and novelty were developed for the obtention of each result, foreseen in a "distinct" form for each one of the patents in question, and it is not possible that any one of them can take advantage of the mechanism applied by the other and also different "degrees of novelties were obtained, developed and applied".

In the development of these foundations aiming at definitely eliminating any risk of confusion between the patents in question, a detailed analysis of the "claims" revealed in Drouillard's patent in opposition to those revealed by application 10/686,288, considering that each one of the privileges is limited by the respective claims, legal forecast both applied by the American legislation of Industrial Property, also dealt with in Trips and the Paris Convention.

Therefore, intrinsic and extrinsic principles from both revelations of the arts exposed for each of the inventions, materialized in the protected patents by the different Applicants, which are:

As already seen and sustained, the essential element of every patent, either an invention of a utility model, within the legal parameters of protection for each one, is exactly the "inventive act".

However, the most difficult parameter to be analyzed in a patent process is exactly the "inventive activity", considering this is where the whole essentiality of

the invention is not in the state of the art and therefore its inventor could not produce it with what had already been declared and is published.

It is in this legal tie that present case has to be deepened, confirming such interpretation with what is foreseen in the American legislation, along with Trips and the Paris Convention.

Drouillard's patent reveals that its "marking system of products comprising: one piece of the product with a skin depth varying from approximately 40 to 200 microns; and structure to mark a plurality of points in the said product skin on a matrix pattern of points to form an identification mark with said points having a depth on the said product skin **not exceeding the depth of the said cell, with the said points having a depth of approximately 20 to 120 microns so that the identification mark is approximately half the depth of the skin cell**".

It can be concluded in comparison with application 10/686,288 that there is no possibility of taking advantage of this patent's features by that one, considering that the matter revealed in this one reaches considerable depths in the meat body in view of its marking feature in high or low relief. Particularly for the marking or engraving in low relief, required by some types of meats, especially for those containing fat tissues or also skin (as in some types of poultry meats), the objective of the marking process in this patent is to reach the meat body and not only the skin, prevailing its non-discontinuity and withdrawal in case of any surface cut in the marked location.

The need for a depth marking or engraving, reaching the meat body on a internally large extension is necessary, because the "marked type" aims at maintaining the individual product identification within a product lot, so that its identification is subject to recognition through laboratory testing in case a health problem should be generated with some

consumer or also if some technical problem is identified in view of animal diseases, which generated the meat body.

It is not possible, therefore, for the inventor of application 10/686,288 to take advantage of the simple external marking of meat skin, because this would be easily withdrawn and eliminated and as foreseen by the patent title itself, the marking occurs in the "meat" and not on its surface.

Therefore, the possibility of the process described in application 10/686,288 marking citric fruits or vegetables is eliminated and withdrawn, because its intensity would reach a depth that would not only damage, but totally disintegrate them considering the texture of the products themselves, independently of reaching or not only the skin of the respective products.

Furthermore, it is noted that one of the purposes revealed in the claims of patent 5,897,797 is not to mix products, as well as not having financial losses in the allocation of prices of the respective products, factors of total disinterest and not linked to the purposes of application 10/686,288.

As a 2nd claim to the referenced patent indicated as supposed precedence, we have that "the product marking system according to claim 1, where the said marking structure comprises a matrix point printing head."

In comparison with application 10/686,288, it can be seen that this has equipment that realizes the marking or engraving of the meat product, foresees attachments producing heat or high intensity rays, regulated by a PLC (Programmable Logic Controller) which allows, through sensors, the recognition of the type of meat and all its technical features to define if the engraving will be in low or high relief, or even the simultaneous application of both principles.

It should be pointed out that the matter initially revealed through claims 18 and 19, has been declared that the marking or engraving described in application 10/686,288 can be carried out through a hyper-heated metal head or equivalent, with the production of regulated heat to limit the surface or even of laser rays application attachments, with any of the attachments controlled by the mentioned PLC.

Thus, the respective patent process is not limited to the application of said head, because this head has different qualities and features considering it involves an attachment widely used in the mechanical segment, each one with its structural formation according to its purpose. We have for example heads published and revealed in other different patents, including prior to the patents in question and as such we can mention Brazilian patent BR/PI 9104520 of 15.10.1991 which deals with a "positioning system and mechanism of a media printing head, with media displacement", BR/PI 8504967 of 04.10.85 "matrix head for printing machine and roller printing attachment", PI 8304288 of 05.08.83 originated from unionist priorities JP 136.723/82 – JP 103.809/83 – JP 108.685/83 – JP 112.023/83 "impact printing head capable of printing a point at a straightener distance than the thickness of the printing unit", among an infinity of other patents located in the databases of American and European INPIs, particularly German, which foresee patents granted to different processes contemplating "the use and application" of different heads.

It should be also characterized that a head has and requires different construction features according to the light beam it will produce, and also the printing grade that will reach the product being marked.

Divergence and differentiation should be included between the materiality of the patents in question (which involves the union of legal presumptions of novelty and inventive

activity) the feature that patent 5,897,797 foresees only as the **"marking"** process, and that application 10/686,288 foresees as the **"marking" or "the engraving"** with its technical effects being quite different, because while the former produces a simple act of marking a feature of surface form the sense of which term marking, summarizes itself to signaling, determining, indicating, the latter works out the acts of marking and also engraving. Etymologically analyzing the term engraving this refers to the act of "opening, sculpting" the necessary signals, requiring a much more diversified and advanced technique than that of the patent indicated as precedence.

This need occurs for application 10/686,288 because its inventor cannot remain restricted only to the act of marking, considering there are meat bodies that require the engraving process in view of its texture, thickness, malleability, density, etc.

Strictly and technically analyzing claims 3 to 6 of patent 5,897,797 particularly claim 4 it should be stressed that the "laser light beam desiccates the product skin in contact with it", attributing the term desiccate its meaning of "drying, evaporating", a factor that does not exist in the technical field of application 10/686,288, including its aspect that here the product reached with the respective process, that is, the meat body, usually is a humid, totally malleable tissue due to its own natural structure, especially if the meat is originated from poultry or fish.

Sequentially, the light beam used in the process by application 10/686,288 is not movable as foreseen in patent 5,897,797, considering the former allows the marking of a big piece of meat as well as of a micro-piece, needing a conveyor, as previously revealed to move the meat body to the laser attachment and through the automatic control of the PLC board will identify such a body and carry out the marking or engraving according to the specific product. Once again any type of collision is thereby eliminated and withdrawn

between the two patent processes.

In the process applied to application 10/686,288 there is no limitation of microns to receive the respective marking, which usually requires a minimum limit above the maximum level above the possible maximum in patent 5,897,797, because in the former a marking or high and low relief engraving occurs, moment when applied in low relief, the depth reached is much higher than 200 microns, especially if the meat body is covered with a layer of fat or a thick skin, because the process of the former aims at reaching the "meat itself" and not the product skin, because the skin ends up disintegrating from the meat body and the whole process would be lost.

It is observed in the process of patent 5,897,797 that the laser light beam aims at "desiccating" the product skin carrying out the marking, a feature that does not exist in application 10/686,288 because the desiccation process becomes impossible in a meat body, in its raw state, because the marketed final product has to be in its natural state.

In relation to claim 10 of patent 5,897,797 the existence of a classifying attachment to identify the products that will be cauterized by the said laser, an attachment that does not exist in application 10/686,288 which is controlled by the PLC, with the capacity to identify the meat body and control and triggering of features that will be marked, including the control of the respective laser quantity and intensity depending on the respective body.

Still in relation to the whole revealed in claim 10 along with the previous ones in patent 5,897,797, it is noted that the respective process depends initially from a "desiccation" and soon after being in the stage of "cauterizing the skin of the citric fruit or vegetable". The terminology "cauterize" reflects the idea of "burning by energetic means" while the process revealed in application 10/686,288 does not carry out this sequence of events, thus characterizing completely different stages!!!

In relation the whole revealed in claims 13 of patent 5,897,797 eliminates and withdraws any possibility of process identity of the patents in question, considering it describes:

a) A product marking system comprising:

a1) a laser discharging a high-intensity light beam to mark the skin of the said product piece with an identifying mark, with the said laser light beam being directed along a predetermined way along the said product skin which corresponds to the said identification mark to be applied to the said product skin:

In this scope, as already founded, exposed and revealed application 10/686,288 foresees not only the product marking or engraving, but requires a completely different technique from the mentioned precedence, considering that its process foresees **marking** as well as **engraving** in high or low relief on the "meat body", on a deep form, with product being in any state, raw or semi-raw and in any size, thickness or texture;

a2)and a cleaning structure to rub a colored agent over the said identification mark to additionally improve the visibility of the said identification mark.

This mechanism does not exist in application 10/686,288 considering that it excludes any type of application of inks or coloring agents to visualize the marked field, because in the respective process, the forecast of high or low relief are already enough to identify the marking carried out, apart from which, among the several important features foreseen and intended by their applicant, one of them is to carry out the engraving of the meat body, independently if it has to go through any crust/layer of fat, reaching the

respective marking of considerable depth of the meat, without damaging its body or even disintegrate it, with the marking not being destroyed even after preparation for final consumption, which allows the identification through laboratory analysis;

a3) thus, the stage of any application of color agents does not exist as foreseen in claim 14 of patent 5,897,797 which proves the increasing differences of any type of identity between the processes;

a4) as foreseen in claim 15 of patent 5,897,797, the laser has a head that can be positioned in a variety of places in relation to the said piece of product; and recipient element which holds the said piece of product, with the said recipient element including an opening along one of the sides or bottom of the said recipient element and the said laser head being aligned with the said opening.

There are none of these attachments and stages in the process of application 10/686,288, because in this patent the piece of raw or semi-raw piece of meat body, as a whole, in parts or even ground is placed on a conveyor which stops automatically in front of the attachment containing the laser and at that moment, the PLC automatically identifies the product and its features, applying the engraving or marking, according to the type of product with the necessary intensity, because if the product is frozen with ice platelets over it there will be a type of intensity to break the respective ice platelets, fat layer, fibers and others in order to allow a perfect engraving or marking, applying the high and low relief if necessary, especially the low relief with the necessary depth;

a5) There is no other attachment in the respective patent (process) to hold the meat body, because this would jeopardize the product, considering it works at the same time with different types of meat and respective sizes. There are no types of any recipient elements/attachments with openings on the side or bottom to align the laser head, because this is fixed. **Thus, these two additional features separate even more patent 5,897,797 from application 10/686,288 considering they do not exist in the latter;**

a6) There is therefore no identification with the description of claim 18 of Drouillard's patent because the head in process 10/686,288 has to be fixed in order to help and allow the identification and operationalization of the PLC, considering that all the phases of the conveyor stop, holding of the product, identification of the product and of the information that will comprise the marks, the type of engraving or marking it will carry out, the types of inhibitions/defects of the product that will have to be overcome type layers of fat, skins, raw or semi-raw state, ice platelets and others and finally realize the product and clear the meat body to the next stages type primary and secondary packaging, certification, etc.;

a7) In relation to claims 19, 20 and 21, they have been exhausted and withdrawn in previous foundations, considering that the process and the attachments inserted in application 10/686,288 have nothing to do with the processes used in patent 5,897,797, and in fact **they are not even similar because if the owner of the former patent should use the systems and attachments applied to the latter patent he will never be able to reach the engraving or marking of a meat body;**

a8) There is also absolutely no similarity of process 10/686,288 with the description in claim 22 of patent 5,897,797 considering that the latter requires the need of a thermal conductor tape element between the printing head and the said piece, as in the process of the former everything is carried out through the PLC, which is responsible for the emanation of letters, signals and other identification elements directly to the laser, which produces the ray of light, which is the natural feature of the laser. **This is the reason why, any kind of use of the stages described in claims 23 to 28 are totally withdrawn, because the stages identified in the process of application 10/686,288 are completely different;**

a9) Finally, if there are no similarities or process identities of both patents, this automatically results in a **totally diverse product/final result.**

It should be also founded that, with the objects of both patents comprising "processes for the manufacturing of products" they do not limit themselves to conventional phases themselves, because there is a universality of production forms, enabling different inventors in relation to the aspect of novelty and inventive activity expressed and exposed in different forms and therefore generating diverse and different "results".

It is also pointed out that the resulting privilege of patents, the processes of which do not identify themselves has to be recognized as "introduction patent of matter as exposed", because it deals with an unknown invention of and in the form conceived and is being developed, and must be individually analyzed in all its forms/stages, including all the attachments/instruments that realize the respective events.

Thus, it can be seen that between the patents there is only one point of identification which deals with the laser itself, which produces no exclusivity for either party, considering its condition of a system widely used in the industrial segment, **with the equipment increasingly improved to overcome its own limits, and with the existence of different types of laser available and each one with their correspondent different features, which requires the analysis of each user in relation to specific needs.**

A brief history of the "laser" has already been pointed out during the fulfillment of the first demand, having at the time overcome such obstacles as well as of the patents indicated as precedences.

From the analysis of the patent processes themselves, it is noted that it is not in the interest of any of the applicants to act in the respective segment of the other, in view of their diversities and also that, the processes carried out by each patent does not allow the use and exploitation by the other in view of the completely different result and, in fact, **in the purely technical field the application of a process by the other will not allow him to reach the necessary results within each applicant's objectives.**

Thus, it will not be possible for the owner of patent 5,897,797 to take advantage of application 10/686,288 in order to enable the marking of his fruits/vegetables, and much less will the owner of the latter take advantage of the process applied to the former because **he would totally make the purpose totally unfeasible and would never be able to realize the process of engraving or marking the meat product.**

It is clarified once more that, in view of the diversity of the stages applied to each one of the patent processes in question, each one of the processes will be limited in the scope of their revelations, and it is therefore useless to talk about "parasitic advantage in relation to the obvious" already described in another patent, because all the possibilities

of one of the owners taking advantage of the other are totally exhausted due to **technical impossibility**.

If there is a technical impossibility of taking advantage of a process to realize the other, reflects such structure in differentiation in the fields and presumptions of "novelty and inventive activity". As to the industrial application, it is a fact that both are possible and recognized, however each one in his own field of activity and with "totally diverse purposes", remaining consigned that the "industrial application" is also different in both patent processes!!

Furthermore, the appreciation of the constituting facts of an eventual similarity/collision between the processes should be realized in the restricted scope of the whole characterized in the claims included in each process, analyzing point by point, that is, per stage/phase which determine the realization of each one.

In time it is indispensable to stipulate and consider that characteristic elements of each patent process must be analyzed and technically examined according to **"function and purpose each one of them performs according to the needs of each object"**.

Furthermore, according to the whole exposed, patent 5,897,797 only foresees the marking process, while application 10/686,288 foresees the process of **"engraving or marking"** and such forecast for the latter is necessary because it depends exclusively on the type of product identified by the PLC, with some of them receiving the engraving process and others of marking and others still of both. The term **"or"** is also one of the determinants of the technical field foreseen in application 10/686,288.

It is not dealt here with a simple modification carried out by the inventor of

application 10/686,288 from what was revealed in patent 5,897,797, because the differences and deviations of each process are clear and objective, consigning even an ample and substantial change of each function, exempting the owner of the former of any undue reproduction of any aspect expressed in the latter.

Therefore, THERE IS NO EQUIVALENCE OR PRESUMPTION OF THE CO-EQUAL OF ELEMENTS AND FUNCTIONS comparatively between the patents in question, as THERE IS, THEREFORE, NO UNDUE ADVANTAGE FOR THE OBVIOUS, with application 10/686,288 not being characterized by any violation in relation to the whole established in the legal forecast 35 USC § 112.

Conclusion

As widely exposed and technically sustained, all the theses of the R.Demand have been duly fulfilled and automatically contested and eliminated, as well as comparatively analyzed, claim by claim, among the patented objects between 5,897,797 with the whole revealed by application 10/686,288, with both of them **totally and fully withdrawn** because they do not comprise the stages/phases of the former, including in relation to the attachment that realizes its process with consequent diverse purposes.

In this order and considering that application 10/686,288 foresees the protection for a "process" of marking or engraving it requires obligatorily **phases and stages to be strictly followed**, where there are no similarities, because the "functions" and the "purposes" which fall automatically in the obligatory presumptions for the protection of a patent in the American state, which are, **novelty and inventive activity and industrial application are completely different from those foreseen in patent 5,897,797 and**

others still and already mentioned previously.

In the face of a patent that involves a "process", "procedures and product means" should be identified, as in the case in question, if such principles of both patent processes, the same "result" will never be obtained, that is, the product obtained directly from a process will not be obtained from the other, exactly due to the impropriety of applying the features of one of them into the other". In view of this, the legal American principle 35 USC 271 is not being violated either.

Therefore, when analyzing the patent request for invention under no. 10/686,288 it can be concluded that it is legitimate in relation to its aspects of novelty, inventive activity and industrial application and still:

It cannot be recognized as an invention from the obvious from the whole revealed in patent 5,897,797, because from the features expressed in each one of the patents it is not possible to realize and obtain the final result proposed by the inventor of the present patent taking advantage of the phases/stages applied in Drouillard's patent;

Comparing the objects pointed out and confronted, it can be deducted that the process of application 10/686,288 does not comprise the process revealed in patent 5,897,797, and if no similar elements exist, the patent does not affect the whole foreseen by article 35 USC § 112;

Finally, as understood from the wide, extensive and detailed comparison between the processes themselves and their purposes, and based on the legislation in force in the American State regarding Patent matters, as well as in relation to the dominant doctrine in this State in relation to the same subject, it can be definitely concluded that the process of application 10/686,288 does not counterfeit any technical similarity or proximity with patent 5,897,797 and others from Drouillard, there is no type of "equivalence" between

them, with the former (10/686,288) deserving the concession of the respective letters patent.

In relation to other patents included in the report mentioned in the Judicial Action, after ample technical clarifications promoted above about application 10/686,288, we have to consider that:

- a) In relation to patent 5,120,928, the principles (phases/stages) revealed thereby do not confront the Applicant's patent (10/686,288), considering that the former foresees the "installation for laser marking of cheese surface and other food products", where it also mentions the meat product, however, they are totally different as to the proposed solution, involving diverse attachments, including a support tray, with the whole process of the mentioned precedence dependent on this instrument, because it does not exist in applicant's patent.

Also, at no moment the solution found in patent 5,120,928 aims at processing "engraving or marking" in high or low relief, does not foresee the application of the meat product in raw state and much less in small portions, reaching ample depth of the meat product with the quality of non-destruction of the engraving or marking process, even after its preparation for final consumption.

Furthermore, the process foreseen in patent 5,120,928 requires the product to be marked "to be covered with flour or any of its equivalents" to control and direct the marking, a stage that does not exist in the solution proposed by application 10/686,288, considering that in the latter the whole control, from the initial identification and other procedures, as largely presented, is realized for PLC itself (identified above).

It remains consigned that that the patent processes are not similar in any way, and there is no possibility for the Applicant of application 10/686,288 taking advantage of the whole revealed in patent 5,120,928 because it is totally unfeasible to obtain the solution for his problem and industrial need.

- b) In relation to the quotation of patent 6,160,835, once more any possibility of confrontation with applicant's patent no. 10/686,288 is exhausted considering that the former's process exhausts itself in the revealed field, about a double-beam laser containing determined attachments, however, not identifying its final purpose of exploitation in food products.

As presented in thesis of the 1st. and 2nd.process demand, the laser is a system widely applied in industries of the most diverse segments. It has different features and properties, being adjusted, improved, changed according to specific needs and factors that will insert it within an industrial operational complex.

It has been largely used in the medical-hospital area, in traditional equipment and also in products of the civil construction segment, that is, the laser is applied, according to determined specific situations, that is, each one with specific and precise standards, in different entrepreneurial segments and also in the food segment. Specific and exclusive applications of the laser in face of application 10/686,288 are not sought, but the technical solution, which comprises the presumptions of novelty, inventive activity and industrial application, with a system specific for "engraving or marking in high or low relief, with the use of laser or heat, in food products of the "meat body" type in their raw or semi-raw state and also in different environment temperatures", with this system/process foreseeing a series

of specific features which at no moment were revealed in the mentioned patent 6,180,835.

c) Concluding the roll of patents mentioned as supposed precedences by the R. Examiner we have to realize the final considerations about process 6,394,889, which finds itself totally withdrawn due to the fact of including principles and systems completely different from those foreseen by application 10/686,288, and showing absolutely no similarity between both patents, with the Applicant believing that the indication of the former was only due to an excessive zeal/ care by the Examiner, in his best and most perfect system of analysis, but which does not confront in any way the principles, operational phases/stages, features, existent problem and proposed solution, with the total inexistence of any shock or the least similarity in relation to the principles of novelty and inventive activity. What is sought in patent 6,394,889 are solutions totally antagonistic to the problem-solution indicated in application 10/686,288, making it totally impossible to apply the process of the former to obtain the purpose and final solution foreseen by the latter.

d) With these conclusions any similarities with the process of patent 6,649,863, which refers to the protection of a Marking System of Precious Stones centered in the focus sensing unit to monitor the relative disposition between the marking surface of the precious stone and the focal plan of the laser beam.

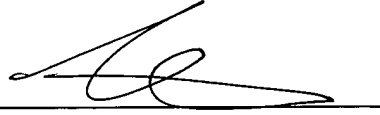
In relation to this process, we have to consider that independently of the process revealed in application 10/686,288 not allowing the engraving or marking of a precious stone, due to its natural and original features, the equipment itself used in

this patent would reject the precious stone as a body to be marked, because the system, with the guidance of the PLC, would not identify it and also the focus of the heat or laser applied to a meat body would never be able to realize the application in low or high relief, because the precious stone is a rigid, hard body which would not adapt to the system. It is thus totally impossible for the applicant of application 10/686,288 to apply any type of equal or similar process as revealed by patent 6,649,863 to any meat product. With one more material and technical impossibility exhausted, proving the inexistence of precedences for the applied patent request.

Considering that "this Official Action was considered final", the titular and applicant of application 10/686,288, who attended and fulfilled all the material and legal requirements in order to obtain his letters patent, withdrawing completely all supposed precedences of indicated patents, as well as having contested and withdrawn the principle of obviousness, thus understands that the patent process is now in perfect legal conditions with the guiding principles of the American Industrial Property legislation, and in accordance with the determinations of the Paris Convention and Trips and the Applicant will be always ready, if the R. Examiner understands as necessary, to attend any new process Action eventually arising from this patent request.

The Examiner is respectfully requested to call the undersigned to discuss this application and hopefully reach agreement on allowable subject matter. The application is very important to the Applicant and the Applicant has provided the undersigned with very specific instructions and arguments as present above which he wishes the Examiner to consider.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Peter C. Michalos', is written over a horizontal line.

Peter C. Michalos
Reg. No. 28,643
Attorney for Applicants
(845) 359-7700

Dated: August 1, 2006

NOTARO & MICHALOS P.C.
100 Dutch Hill Road, Suite 110
Orangeburg, New York 10962-2100

Customer No. 21706